

7th SER European Conference
on **Ecological Restoration**
23-27 AUGUST 2010
AVIGNON FRANCE

**ECOLOGICAL
RESTORATION
AND SUSTAINABLE
DEVELOPMENT**

ESTABLISHING
LINKS ACROSS
FRONTIERS

**CONFERENCE
PROGRAMME
ABSTRACT
BOOK**

*7^e Conférence Européenne SER
en **Ecologie de la Restauration**
23-27 AOUT 2010
AVIGNON FRANCE*

**ECOLOGIE DE LA
RESTAURATION ET
DEVELOPPEMENT
DURABLE**

DEPASSER
LES FRONTIÈRES



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Restoration of a transition forest using soil and seed rain transfers near Andohahela National Park, Southeastern Madagascar*Fanambinantsoa Noromiarylanto, Ramanoelina Harijaona, Harison Rabarison, Fidisoa Ratovoson, Jimmy Randrianaivo, Porter P. Lowry II, Elise Buisson*

The present study examines various ways of restoring a transition forest after cultivation and fire. The study sites are located in the transitional zone midway along a sharp precipitation/altitudinal gradient across a corridor between two large blocks of Andohahela National Park located in southeastern Madagascar: an upland parcel of humid forest and a lowland parcel with dry forest/spiny thicket. Restoration of gaps in this narrow, sinuous corridor may be essential to retain connectivity as the impacts of climate change are likely to be particularly severe in this region. In November 2009, soil and seed rain samples were transferred to 3 replicate plots left fallow. Preliminary results will be discussed.

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Sequence of facilitation, allelopathy and competition within a single growth season between an aridland shrub and its understory grass*Mohammad Jankju, Parvaneh Abrishamchi, Azam Maghamnia, Asieh Behdad*

Research on plant-plant interactions provide the basic information for restoration of degraded ecosystems. Measuring the physiological ecology parameters helps us to understand the mechanisms underlying shifts in the type and intensity of plant interactions across the gradients of environmental severity. We compared the interactions between an aridland nurse shrub *Artemisia Khorasania* Krasch, and a perennial forage grass *Bromus kopetdaghensis* Podle, in a semiarid rangeland, Quchan, Iran. Microclimate conditions and physiological parameters were simultaneously measured under the canopy of the shrub and in the adjacent open areas. Effects of shrub's allelopathic compound were assessed on the grass germination and seedling growth. Available soil water were measured in three soil depths; at the vegetative, flowering and seed ripening growth stages of the grass. At the early growth season, higher soil moisture, and possibly favorable light and temperature conditions, facilitated grass establishment under the canopy of shrub. By the end of season, competition for soil water led to the high grass mortality. The water soluble root and shoot extracts of shrub negatively affected the grass seedlings, especially at the early growth stage. Physiological measurements also confirmed the late season environmental stress; i.e. leaf proline and malonaldehydes increased and those of chlorophyll a and chlorophyll b decreased from the beginning towards the end of growth season. Accordingly there was a sequence of interaction types between the two plants within a single growth season; it began as facilitation and continued as allelopathic and competitive effects of shrub on the grass.

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The effect of a restoration program on the Orthopteran diversity from a protected area in the southern Iberian Peninsula*Ana M. Cárdenas, Juan M. Hidalgo, Lourdes Moyano, Patricia Gallardo*

The Directive 92/43/EEC of the European Council on the Conservation of natural habitats and of wild fauna and flora establishes that member States must take all compensatory measures necessary to ensure that the overall coherence of Natura 2000. In consequence, the Project of the Breña II, a new dam constructed in the Guadiato basin (southern Iberian Peninsula), implies the implementation of a package of compensatory measures to offset the environmental disturbance that flooding of territory belonging to a Nature Reserve and the dam infrastructure represents. Between these actions, a re-vegetation Program was included. The predominant vegetation in the area consists of open oak meadowlands alternating several *Quercus* species (*Q. suber*, *Q. ilex* and *Q. faginea*) as well as shrubs and scrubland. Patches of the clearest forest areas have been restocked with autochthonous scrub vegetation, mostly with species of *Cistus*, *Rubus ulmifolius*, *Pistacia lentiscus*, *Arbutus unedo*, *Rosmarinus officinalis*, *Phillyrea angustifolia* and *Olea europaea*. This paper provides preliminary data on the comparative study of the Orthoptera fauna that colonizes the reforested areas and the surrounding territories. In order to characterise the Orthopteran community, the indices most commonly-used in the study of insect populations were applied: Richness, Diversity and Evenness. The results suggest that the improved areas act as refuges, especially when the adjacent environment is subjected to traditional management such as land-clearing and intensive grazing.